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Imagery analysis report

SCZ-A Mobile Telemetry/Tracking Equipment Set, China (S)

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SCZ-A MOBILE TELEMETRY/TRACKING EQUIPMENT SET, CHINA (S)

INTRODUCTION

1. [] The SCZ-A, a mobile tracking/telemetry equipment set, has been identified at three locations in China. This equipment supported the two CSS-X-4 ICBM launches to the mid-Pacific during May 1980^{1,2} (Figure 1). This telemetry/tracking equipment set, assigned the NPIC interim designator Shuangchengzi-A (SCZ-A), consists of a truck-mounted dish antenna, two van trucks, one van trailer, and two generator trailers. The SCZ-A set was first identified at the Shuangchengzi Missile Test Range (MTR) Complex SSM [] in December 1979. It

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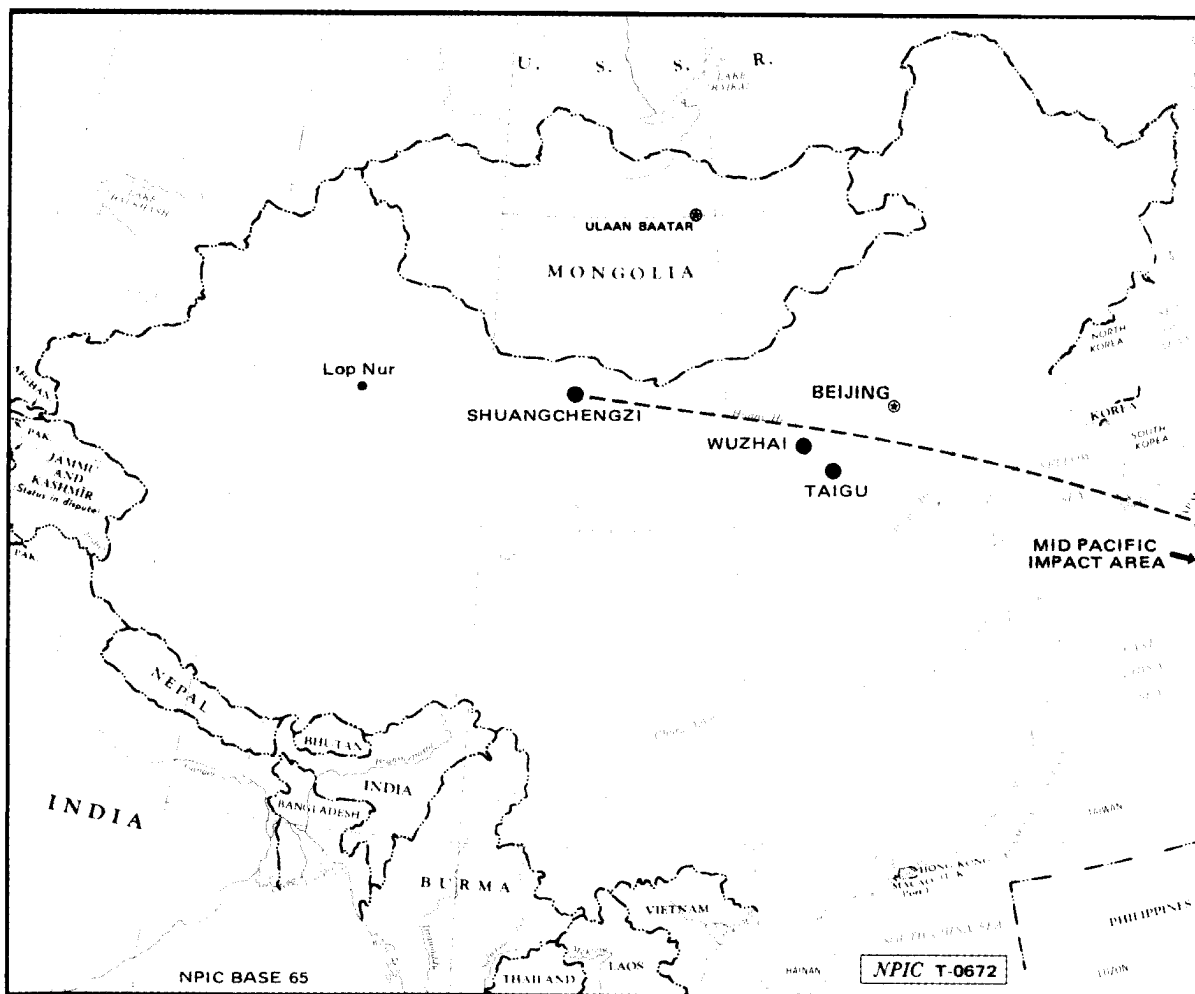


FIGURE 1. SCZ-A LOCATIONS AND CSS-X-4 FLIGHTPATH, CHINA

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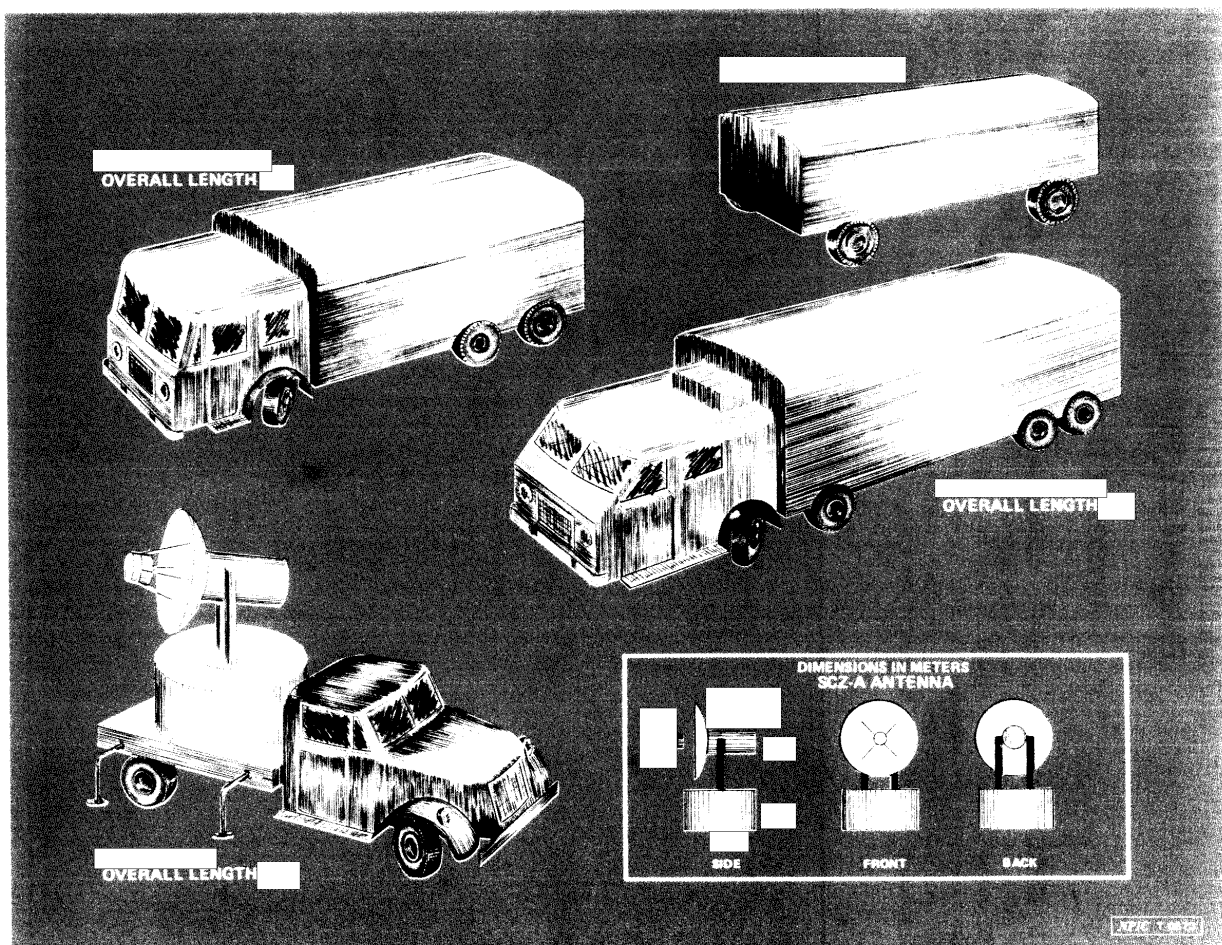


FIGURE 2. CONCEPTUAL DRAWINGS OF SCZ-A EQUIPMENT SET AND ANTENNA

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subsequently provided telemetry/tracking support from two locations at the complex. The SCZ-A set was also deployed to the Wuzhai Missile Test Complex (MTC; [REDACTED] in March 1980, when two SCZ-A sets were deployed at an instrumentation site. The SCZ-A sets were probably developed/produced at the Taigu Radio Equipment Research and Development/Test/Assembly Plant ([REDACTED] with the first SCZ-A equipment observed as early as October 1979. A total of six SCZ-A sets have been identified in China: two at Shuangchengzi, two at Wuzhai, and two additional sets that have departed Taigu since March 1980 but have not been observed at a deployed location.

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EQUIPMENT DESCRIPTION

2. (S/D) The SCZ-A telemetry/tracking set (Figure 2) is composed of:
 - a. a pedestal-mounted [REDACTED] dish antenna mounted on the rear of a cab-behind-engine (CBE) truck chassis,
 - b. one large four-axle cab-over-engine (COE) van truck,
 - c. one small CBE van truck,
 - d. one van trailer, and
 - e. two generator trailers.

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The pedestal-mounted dish antenna was the only equipment in the set that could be firmly identified as telemetry/tracking related. The antenna appears to be attached to the pedestal by a yoke-type mount that would allow the antenna to be trainable in both azimuth and elevation. The center-feed dish is approximately [REDACTED] in diameter. The support van trucks and trailers probably provide antenna tracking commands, radio support, signal propagation, telemetry handling, and power conditioning for the SCZ-A set.

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SHUANGCHENGZI DEPLOYMENT

3. [REDACTED] SCZ-A telemetry/tracking sets were first observed deployed at Shuangchengzi Launch Test Site B1/2 ([REDACTED] Figure 3) within the MTR Complex between [REDACTED] [REDACTED] Two of the SCZ-A sets were deployed approximately 200 meters northeast of launch position B2. The truck-mounted dish antenna appeared to be cable connected to the B2 launch control facility. This activity may have been initial calibration or testing of the equipment, or possibly a check of the compatibility of the new SCZ-A set with the existing equipment used in the launch control facility. On [REDACTED] the two SCZ-A sets were removed from Launch Site B1/2 and were deployed to two other locations in the MTR Complex. One SCZ-A set was at Shuangchengzi SSM Tracking Facility 10 ([REDACTED] The SCZ-A equipment was deployed in the tracking equipment deployment area near the northwest corner of the tracking facility (Figure 4). On [REDACTED] the SCZ-A set was in a motor pool area on the east side of the tracking facility. On [REDACTED] the equipment was parked in the barracks area at the north edge of the facility (Figure 5). The second SCZ-A set was observed in the Shuangchengzi SSM Support Facility [REDACTED] Figure 6) on [REDACTED] The SCZ-A sets were subsequently deployed in a tracking configuration, one set at the Support Facility on [REDACTED] and one set at Tracking Facility 10 on [REDACTED] The SCZ-A sets remained operationally deployed in support of the two CSS-X-4 launches that took place from Launch Site B1/2 to the mid-Pacific impact area

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near the Fiji Islands on [REDACTED] Operational deployment of the SCZ-A sets ended on [REDACTED] at the Support Facility and on [REDACTED] at Tracking Facility 10, immediately following completion of the CSS-X-4 mid-Pacific missile tests. At Tracking Facility 10, the SCZ-A set was returned to the barracks area on the north side of the facility. At the Support Facility, the SCZ-A equipment was no longer observed and was possibly parked in garages within the Support Facility.

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WUZHAI DEPLOYMENT

4. [REDACTED] SCZ-A equipment sets were also deployed at the Wuzhai MTC in support of the May 1980 CSS-X-4 launches^{1,2} from the Shuangchengzi MTR Complex. Two SCZ-A sets were first observed at the Wuzhai MTC Instrumentation Area [REDACTED] Figure 7) on [REDACTED] The orientation of the antennas indicated that SCZ-A sets were positioned to support eastward launches from Shuangchengzi. The equipment at Wuzhai could have been monitoring first-stage separation, second-stage operation and/or cutoff, and payload deployment. The SCZ-A set remained deployed at the Instrumentation Area through [REDACTED] following completion of the two CSS-X-4 missile tests. By [REDACTED] the SCZ-A equipment had been moved to the Wuzhai SSM Support Areas 1, 2 [REDACTED] The SCZ-A sets were parked in the open in a small compound at the west end of Support Area 1.

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TAIGU DEVELOPMENT/PRODUCTION

5. (S/D) The probable development/production of the SCZ-A antenna was identified at the Taigu Radio Equipment Plant. Pairs of the pedestal-mounted dish antennas on CBE truck chassis

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(Figure 8) were observed at the plant on four occasions: twice during October 1979, in January 1980, and again on []. On each occasion a pair of SCZ-A antennas was observed in the southeast corner of the plant. This plant may have been involved in the production, assembly, testing, or calibration of the SCZ-A antenna prior to deployment to the missile complexes. If the SCZ-A equipment observed in the southeast area of the plant was undergoing final testing/calibration, then the SCZ-A equipment observed on [] probably represented two SCZ-A sets whose deployed location was unidentified.

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IMAGERY ANALYST'S COMMENTS

6. [] The exact purpose of the SCZ-A telemetry/tracking set remains unknown. The deployment of the SCZ-A sets in conjunction with five-element helix telemetry antenna van trailers at each of the missile test centers indicated a possible telemetry association. The dish configuration of the antenna, however, was also compatible with a beacon tracking or a skin tracking role. A total of six SCZ-A antenna trucks have been identified in preparation for deployment at the Taigu plant. The SCZ-A sets observed during October 1979 and January 1980 were possibly the sets subsequently identified at Shuangchengzi and Wuzhai, respectively. The deployment location of at least one pair of SCZ-A sets was not observed. The purpose of deploying the new SCZ-A equipment may have been an attempt to upgrade the tracking and control capabilities of the missile test centers. The eastward launch azimuth of the May launches from Shuangchengzi to the mid-Pacific passed over densely populated areas of China and close to Japan.^{1,2} This may have required more positive tracking and safety control for the CSS-X-4 missile. The continuing observation of one SCZ-A set at Shuangchengzi SSM Tracking Facility 10 and of two SCZ-A sets at Wuzhai SSM Support Facility 1 indicates that the SCZ-A sets will probably be used to support similar future missile launches at these complexes. Deployment of the SCZ-A sets may be an accurate indicator of any eastward launches from the Shuangchengzi MTR Complex.

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REFERENCES

IMAGERY

(TSR) All applicable KEYHOLE imagery acquired between [] was used in the preparation of this report.

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DOCUMENTS

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2. DEFSMAC. K-DQ-0533-80 Follow-up Nr. Two to S-DQ-0297-80, *PRC Second ICBM Out-of-Country Launch and In-Flight Failure*, [] (TSC), 23 May 80 (TOP SECRET)

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(S) Comments and queries regarding this report are welcome. They may be directed to [] Asian Forces Division, Imagery Exploitation Group, NPIC, []

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